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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/029,040	12/28/2001	Joon Ha Park	049128-5035	3661

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EXAMINER

LIANG, REGINA

ART UNIT	PAPER NUMBER
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2674

DATE MAILED: 03/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/029,040	PARK, JOON HA	
	Examiner	Art Unit	
	Regina Liang	2674	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 February 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wright (EP 0 315 365) in view of Katoh et al (US. PAT. NO. 5,777,591 hereinafter Katoh).

As to claim 1, Wright discloses a LCD device, comprising a LCD panel having a plurality of display cells at each intersection between a plurality of data lines and gate lines and a plurality of TFTs driving the display cells (column 2, lines 48-54), a plurality of switching devices (17-22 in Fig. 1) such that each data line is provided with at least one of the switching device, the plurality of switching device being provided in the data lines for separating the sub-matrices between the row electrodes and for switching a driving mode of the plurality of display cells to either a divisional driving mode or a non-divisional driving mode in a row direction (see col. 2, lines 12-25, col. 3, lines 7-18), a controller (see col. 3, lines 10-11, it is inherent having a controller) supplying a control signal to the switching devices to control the switching devices, and a control line (lines 23 and 24) connecting the switching devices and the controller. Wright does not disclose a plurality of switching devices provided at the gate lines for separating the sub-matrices between the column electrodes and for switching a driving mode of the plurality of cells to either a divisional driving mode or a non-divisional driving mode in column direction. However, Katoh teaches a LCD display panel having a plurality of display cells, wherein the display panel is separated into two sub-matrices between the column electrodes (see Figs. 1, 5 and 9 for example). Thus, it would have been obvious to one having ordinary skill in the art at

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the time the invention was made to modify the display panel of Wright to comprise switching devices provided at the gate lines for separating the sub-matrices between the column electrodes and for switching a driving mode of the plurality of cells to either a divisional driving mode or a non-divisional driving mode in column direction so as to provide a matrix display apparatus with a simple structure but capable of significant improvement in display image.

As to claim 2, Wright teaches a plurality of switching devices at the middle portion of the data lines.

As to claim 3, Wright teaches the control signal is either an on-selection signal (open circuit) for the divisional driving mode or an off-selection signal (close circuit) for the non-divisional driving mode.

3. Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wright and Katoh as applied to claim 1 above, and further in view of Negishi et al (US. PAT. NO. 5,907,314 hereinafter Negishi).

As to claim 4, Wright as modified by Katoh does not explicitly disclose the LCD device comprising a first and second source drivers and a first and second gate drivers and a timing controller. However, Fig. 11 of Negishi teaches the LCD device comprising a first and second source drivers (112, 113) and a first and second gate drivers (115, 116) and a timing controller (Fig. 12) for applying control signal to the source driver and the gate driver. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the LCD device of Wright as modified by Katoh to have the first and second source drivers, and

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the first and second gate drivers and the timing controller as taught by Negishi to provide an improved LCD apparatus.

As to claim 5, Wright as modified teaches the plurality of switching device at the middle portion of the data lines.

As to claim 6, Wright teaches the control signal is either an on-selection signal (open circuit) for the divisional driving mode or an off-selection signal (close circuit) for the non-divisional driving mode.

Response to Arguments

4. Applicant's arguments filed 2/2/05 have been fully considered but they are not persuasive.

Applicant's remarks regarding Wright and Katoh on pages 2-3 are not persuasive. Wright teaches the display panel is separated into two or more sub-matrices between the row electrodes, and a plurality of switching devices provided in the data lines for switching a driving mode to either a divisional driving mode or a non-divisional driving mode. Katoh is used to teach the display panel is separated into two sub-matrices between the column electrodes. As shown in Figs. 1, 5, 9 of Katoh, the display panel having a first sub-matrix (first group 28) and a second-matrix (second group 29) between the column electrodes. Wright as modified by Katoh would have the display panel is separated into two sub-matrices between the row electrodes, and have the plurality of switching devices provided at the gate lines for separating the sub-matrices between the column electrodes and for switching a driving mode of the plurality of cells to either a divisional driving mode or a non-divisional driving mode in column direction as claimed.

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Applicant argues that the first and second switching means as described on col. 2, lines 52-60 of Katoh do not read on claimed switching means. This argument is wrong, the first and second switching means as described on col. 2, lines 52-60 of Katoh correspond to the transistors as shown in Fig. 3 of Katoh. Examiner never relied on the first and second switching means as described on col. 2, lines 52-60 of Katoh to modify the claimed switching means.

Applicant's allegation that the office Action lacks a prima facie showing of obviousness is not persuasive. Note the rejection above, the examiner has provides sufficient reasons to support combining the references of Wright and Katoh, therefore, the examiner has established a prima facie showing of obviousness.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Regina Liang whose telephone number is (571) 272-7693. The examiner can normally be reached on Monday-Friday from 8AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard, can be reached on (571) 272-7603. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Regina Liang
Primary Examiner
Art Unit 2674

3/29/05